

LACLEDE WATER DISTRICT (PWSNO 1090073) SOURCE WATER ASSESSMENT REPORT

October 22, 2001



State of Idaho Department of Environmental Quality

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Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. This assessment is based on a land use inventory of the designated assessment area and sensitivity factors associated with the watershed characteristics.

This report, *Source Water Assessment for Laclede Water District* describes the public drinking water system, the boundaries of the zone of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Laclede Water District drinking water source consists of a surface water intake in the Pend Oreille River. The intake is about 50 feet from the riverbank in about 35 feet of water. The Pend Oreille River is vulnerable to contamination from heavily used roads, from intensive recreational use, and from residential, agricultural, timber, mining and other industrial sites in the watershed. Historically, water quality has declined with the increase of population in the watershed.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For the Laclede Water District, source water protection activities should focus on regulating use of potential contaminants near the intake in the Pend Oreille River. Cooperative activities with other public water systems, private and public agencies involved in water quality programs encompassing the entire Pend Oreille-Clark Fork Basin are also important. Partnerships with state and local agencies and industry groups should be established and are critical to success. Due to the fairly short time associated with the movement of surface waters, source water protection activities should be aimed at short-term management strategies with the development of long-term management strategies to counter any future contamination threats.

A community with a fully developed source water protection program will incorporate many strategies. For assistance in developing protection strategies please contact your regional IDEQ office or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR LACLEDE WATER DISTRICT,

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted.

It is important to review this information to understand what the ranking of this source means. A map showing the delineated source water assessment area, a map showing the entire watershed contributing to the delineated area, a map showing the twenty-four (24) hour emergency response delineation, and the inventory of significant potential sources of contamination identified within the delineated area are included. Significant potential contaminant sources found in the delineation are listed and the worksheet used to develop the assessment is attached.

Background

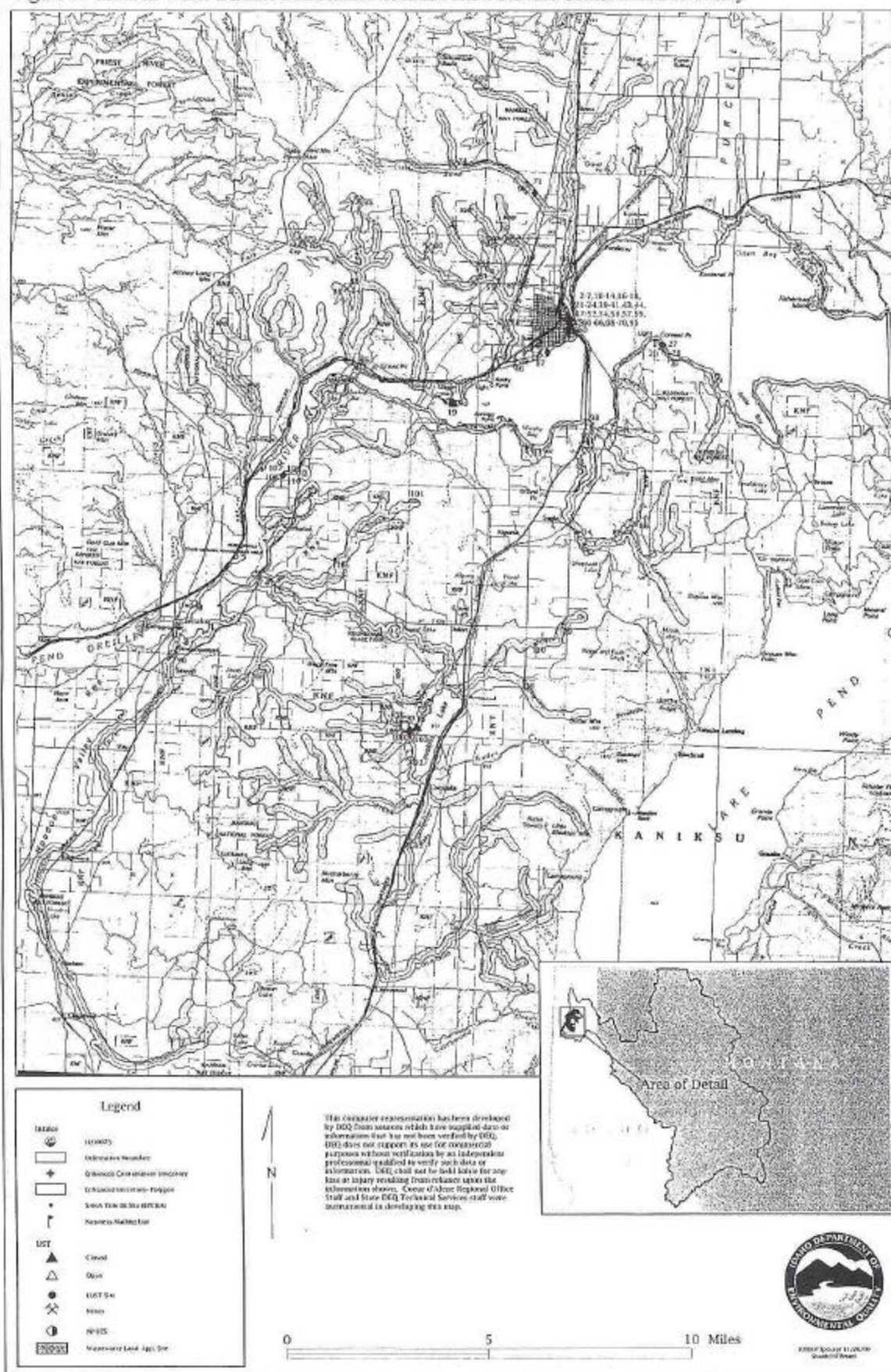
Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area and sensitivity factors associated with the intakes and watershed characteristics.

Level of Accuracy and Purpose of the Assessment

Since there are over 2,900 public water sources in Idaho, time and resources to accomplish the assessments are limited. All assessments must be completed by May of 2003. An in-depth, site-specific investigation of each significant potential source of contamination is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply. The Idaho Department of Environmental Quality (IDEQ) recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. IDEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Figure 1. Laclede Water District Delineation Location and Potential Contaminant Inventory



Section 2. Conducting the Assessment

General Description of the Source Water Quality

The Laclede Water District serves a community of approximately 400 people, located between Sandpoint and Priest River, Idaho on the north side of Pend Oreille River (Figure 1). Drinking water for the Laclede Water District is drawn from the Pend Oreille River about a mile upstream from the Riley Creek Recreation Area. The intake is about 50 feet from the north bank of the river in 35 feet of water.

The primary water quality issue currently facing the Laclede Water District is that of contamination associated with turbidity in the water. As water travels over the surface of the land it can dissolve or pick up particles of naturally occurring minerals and radioactive material; microbial contaminants from live stock, wildlife and humans; agricultural chemicals and pesticides; and industrial contaminants.

Radionuclides from erosion of natural deposits have been detected in the water for the Laclede Water District at concentrations below the Maximum Contaminant Level (MCL) since testing began in 1983. Volatile and synthetic organic chemicals other than disinfection byproducts have never been detected. Nitrate (MCL 10 mg/l) was present at a concentration of 0.0139 in a samples tested in 1983. Barium (MCL 2 mg/l) at concentrations of 0.01 and 0.07 mg/l was detected in the water in 1983 and 1998 respectively. Cadmium (MCL 0.005 mg/l) in a concentration of 0.0001 mg/l and fluoride (MCL 4.0 mg/l) in a concentration of 0.07 mg/l were detected in a sample tested in August 1994.

Defining the Zones of Contribution--Delineation

To protect surface water systems from potential contaminants, the EPA required that the entire drainage basin be delineated upstream from the intake to the hydrologic boundary of the drainage basin (U.S. EPA, 1997b). The EPA recognized that an intake on a large water body could have an extensive drainage basin. Therefore, the EPA recommended that large drainage basins be segmented into smaller areas for the purpose of implementing a cost-effective potential contaminant inventory and susceptibility analysis. The delineation process established the physical area around an intake that became the focal point of the assessment. For the Laclede Water District the process included mapping the boundaries of the zone of contribution as a 500 foot river buffer that extends from the intake upstream 25 miles or to the 4-hour streamflow time-of-travel boundary, whichever is greater. This 4-hour streamflow is calculated from the 10-year flood event. The buffer zone also extends up tributaries to the remainder of the 25-mile/4-hour distance, whichever is greater.

A map of the entire watershed, showing locations of highways and any Superfund sites (CERCLIS), Toxic Release Inventory sites or National Pollutant Discharge Elimination System (NPDES) facilities which could pose a threat to surface water in the basin is also included (Figure 2). The presence of these sites in the watershed was factored into the susceptibility analysis for Laclede Water District. The basin map includes a 24-hour emergency response delineation. Stream velocity for the 24-hour time of travel estimates was calculated using the mean annual daily discharge from gauged streams in the watershed. The 24-hour emergency response delineation for the Pend Oreille River stops at the lake where the water velocity is essentially zero. The data used by IDEQ in delineating the source water assessment area are available upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of surface water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by IDEQ and from available databases.

The watershed for the Pend Oreille River covers parts of Washington State, Boundary, Bonner and Kootenai Counties in Idaho, and a large portion of western Montana. It encompasses a number of small towns and cities where mining and logging are the primary economic activities. The vast majority of the land in the basin is publicly owned. Areas of private ownership tend to follow the course of the Pend Oreille and Clark Fork Rivers and major highways.

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination. These involve educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply intake.

Contaminant Source Inventory Process

A contaminant inventory conducted by IDEQ identified and documented potential contaminant sources in the Laclede Water District Source Water Assessment Area through the use of computer databases and Geographic Information System (GIS) maps developed by IDEQ. Potential contaminants inventoried by water system operators whose assessment areas overlap the Laclede Water District assessment area are also included in the analysis.

A total of 110 potential contaminant sources are located within the river and stream buffer zones delineated as the Laclede Water District Source Water Assessment Area. 139 major sites are located in the watershed but outside of the buffer zone (see Table 1). There are duplicates in some instances because a site was documented on more than one database. The heaviest concentration of potential contaminant sources is clustered in and around Sandpoint. Potential contaminant sources located in the buffer zone include The Sandpoint wastewater treatment plant outfall, petroleum storage tanks, waste water land application sites, a landfill, roads, mines and a number of small business where contaminants of concern may be used (Figure 1). Table 1 lists the potential contaminants of concern and the information source

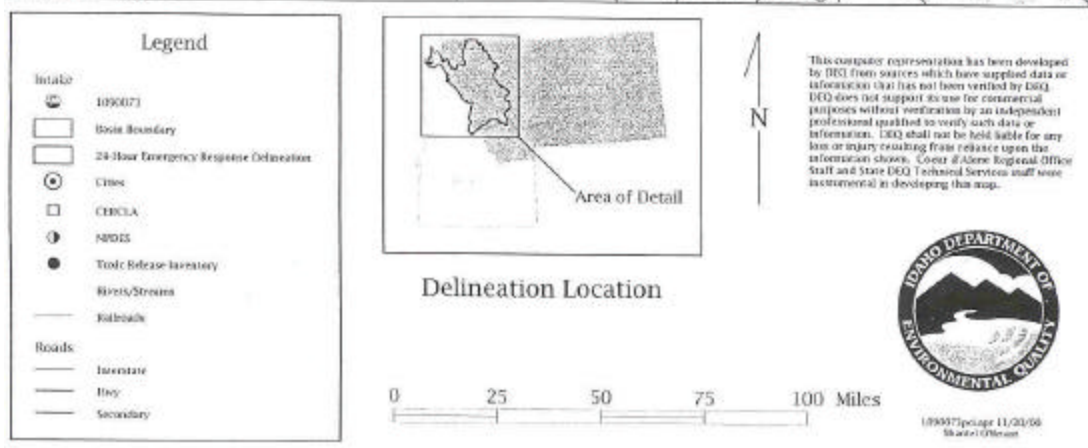


Table 1. Laclede Water District Potential Contaminant Inventory

Buffer Zone	Description	Potential	Source of Information
1	MARINA-CLOSED PETROLEUM STORAGE	SOC, VOC	LUST Database
2	GAS STATION-CLOSED TANK	SOC, VOC	LUST Database
3	CLOSED PETROLEUM STORAGE TANK	SOC, VOC	LUST Database
4	CLOSED PETROLEUM STORAGE TANK	SOC, VOC	LUST Database
5	GAS STATION-CLOSED TANK	SOC, VOC	LUST Database
6	CLOSED PETROLEUM STORAGE TANK	SOC, VOC	LUST Database
7	MARINA-CLOSED PETROLEUM STORAGE	SOC, VOC	LUST Database
8	MILL-CLOSED PETROLEUM STORAGE TANK	SOC, VOC	LUST Database
9	MILL-CLOSED PETROLEUM STORAGE TANK	SOC, VOC	LUST Database
10	GAS STATION-CLOSED TANK	SOC, VOC	LUST Database
11	GENERATOR-CLOSED PETROLEUM STORAGE	SOC, VOC	UST Database
12	UTILITY- PETROLEUM STORAGE	SOC, VOC	UST Database
13	CLOSED GAS STATION	SOC, VOC	UST Database
14	CLOSED GAS STATION	SOC, VOC	UST Database
15	RESORT-CLOSED PETROLEUM STORAGE TANK	SOC, VOC	UST Database
16	CLOSED PETROLEUM STORAGE TANK	SOC, VOC	UST Database
17	MARINA- PETROLEUM STORAGE TANK	SOC, VOC	UST Database
18	GAS STATION	SOC, VOC	UST Database
19	MILL-CLOSED PETROLEUM STORAGE TANK	SOC, VOC	UST Database
20	MARINA-PETROLEUM STORAGE TANK	SOC, VOC	UST Database
21	GAS STATION	SOC, VOC	UST Database
22	GAS STATION	SOC, VOC	UST Database
23	GAS STATION	SOC, VOC	UST Database
24	CLOSED GAS STATION	SOC, VOC	UST Database
25	PAINT	SOC, VOC	Business Mailing List
26	GENERAL CONTRACTOR	SOC, VOC	Business Mailing List
27	GENERAL CONTRACTOR	SOC, VOC	Business Mailing List
28	CONCRETE CONTRACTOR	SOC, VOC	Business Mailing List
29	EQUIPEMENT REPAIR	SOC, VOC	Business Mailing List
30	EXCAVATING CONTRACTOR	SOC, VOC	Business Mailing List
31	HOUSING MANUFACTURER	SOC, VOC	Business Mailing List
32	CONCRETE CONTRACTOR	SOC, VOC	Business Mailing List
33	HATCHERY	MICROBIAL	Business Mailing List
34	LANDSCAPER	SOC,VOC	Business Mailing List
35	ROOFING CONTRACTOR	SOC, VOC	Business Mailing List
36	LANDSCAPER	SOC, VOC	Business Mailing List
37	GENERAL CONTRACTOR	SOC, VOC	Business Mailing List
38	CONSTRUCTION COMPANY	SOC, VOC	Business Mailing List
39	AUTO PARTS & SUPPLIES	SOC, VOC	Business Mailing List
40	GAS STATION	SOC, VOC	Business Mailing List
41	ROAD DEPARTMENT	SOC, VOC	Business Mailing List
42	CRANE SERVICE	SOC, VOC	Business Mailing List
43	RAILROAD	SOC, VOC	Business Mailing List
44	CONCRETE CONTRACTOR	SOC, VOC,	Business Mailing List
45	BRIDGE BUILDERS	SOC, VOC	Business Mailing List
46	MARINE CONTRACTOR	SOC, VOC	Business Mailing List
47	PHOTOGRAPHER	IOC	Business Mailing List
48	GOVERNMENT-TRANSPORTATION	SOC, VOC	Business Mailing List
41	MARINA	SOC, VOC	Business Mailing List
50	TILE CONTRACTOR	IOC	Business Mailing List
51	SCREEN PRINTING	VOC	Business Mailing List
52	GAS STATION	SOC, VOC	Business Mailing List
53	BUILDING CONTRACTOR	SOC, VOC	Business Mailing List
54	FOOD PROCESSOR	MICROBIAL	Business Mailing List

Table 1. Laclede Water District Potential Contaminant Inventory

Buffer Zone	Description	Potential	Source of Information
55	WOODWORKERS	VOC	Business Mailing List
56	PHOTO FINISHING	IOC	Business Mailing List
57	PRINTER	SOC, VOC	Business Mailing List
58	LOGGING	SOC, VOC	Business Mailing List
59	BUILDING CONTRACTOR	SOC, VOC	Business Mailing List
60	AUTO PARTS & SUPPLIES	SOC, VOC	Business Mailing List
61	GENERAL CONTRACTOR	SOC, VOC	Business Mailing List
62	SIGN MANUFACTURER	IOC, SOC	Business Mailing List
63	BREWER	MICROBIAL	Business Mailing List
64	GENERAL CONTRACTOR	SOC, VOC	Business Mailing List
65	PHOTOGRAPHY	IOC	Business Mailing List
66	FIRE DEPARTMENT	SOC, VOC	Business Mailing List
67	GENERAL CONTRACTOR	SOC, VOC	Business Mailing List
68	NEWSPAPER	SOC, VOC	Business Mailing List
69	TRUCK RENTAL	SOC, VOC	Business Mailing List
70	PHOTOGRAPHER	IOC	Business Mailing List
71	H2O TREATMENT DISCHARGE	MICROBIAL	Business Mailing List
72	WASTE WATER TREATMENT PLANT	MICROBIAL	NPDES Database
73	GRAVEL PIT	SEDIMENT	Mine Database
74	BORROW PIT	SEDIMENT	Mine Database
75	GRAVEL PIT	SEDIMENT	Mine Database
76	QUARRY	SEDIMENT	Mine Database
77	GOLD MINE	IOC	Mine Database
78	GRAVEL PIT	SEDIMENT	Mine Database
79	COPPER MINE	IOC	Mine Database
80	GRAVEL PIT	SEDIMENT	Mine Database
81	BORROW PIT	SEDIMENT	Mine Database
82	IRON PROSPECT	IOC	Mine Database
83	TIN MINE	IOC	Mine Database
84	SILVER MINE	IOC	Mine Database
85	SILVER MINE	IOC	Mine Database
86	GRAVEL PIT	SEDIMENT	Mine Database
87	GRAVEL PIT	SEDIMENT	Mine Database
88	GRAVEL PIT	SEDIMENT	Mine Database
89	MINE	IOC	Mine Database
90	BORROW PIT	SEDIMENT	Mine Database
91	GRAVEL PIT	SEDIMENT	Mine Database
92	SAND PIT	SEDIMENT	Mine Database
93	SAND PIT	SEDIMENT	Mine Database
94	SUPPLY COMPANY	SOC, VOC	SARA Database
95	UTILITY OFFICE	SOC, VOC	SARA Database
96	WATER TREATMENT PLANT	PARTICULATES	SARA Database
97	LAKE WATER TREATMENT PLANT	PARTICULATES	SARA Database
98	BOTTLED GAS DEALER	SOC, VOC	SARA Database
99	WASTE WATER LAND APPLICATION	MICROBIAL	WLAP Database
100	WASTE WATER LAND APPLICATION	MICROBIAL	WLAP Database
101	WASTE WATER LAND APPLICATION	MICROBIAL	WLAP Database
102	SEPTIC SYSTEM	MICROBIAL	Enhanced Inventory
103	SEPTIC TANK	MICROBIAL	Enhanced Inventory
104	SEPTIC TANK	MICROBIAL	Enhanced Inventory
105	SEPTIC TANK	MICROBIAL	Enhanced Inventory
106	SEPTIC SYSTEM	MICROBIAL	Enhanced Inventory
107	SEPTIC SYSTEM	MICROBIAL	Enhanced Inventory
108	SEPTIC SYSTEM	MICROBIAL	Enhanced Inventory
109	SEPTIC SYSTEM	MICROBIAL	Enhanced Inventory

Table 1. Laclede Water District Potential Contaminant Inventory

Buffer Zone	Description	Potential	Source of Information
I10	SEPTIC SYSTEM	MICROBIAL	Enhanced Inventory
Basin Map	Description	Potential	Source of Information
T1	WOOD TREATMENT	IOC,VOC	Toxic Release Inventory
T2	INDUSTRIAL SITE	IOC,VOC	Toxic Release Inventory
T3	ANTIMONY COMPANY	IOC	Toxic Release Inventory
T4	INDUSTRIAL SITE	SOC,VOC	Toxic Release Inventory
T5	FUEL & CONCRETE	SOC,VOC,IOC	Toxic Release Inventory
T6	INDUSTRIAL SITE	SOC,VOC	Toxic Release Inventory
T7	INDUSTRIAL SITE	SOC,VOC	Toxic Release Inventory
T8	RESEARCH FACILITY	SOC,VOC	Toxic Release Inventory
T9	INDUSTRIAL SITE	SOC,VOC	Toxic Release Inventory
T10	INDUSTRIAL SITE	SOC,VOC	Toxic Release Inventory
T11	INDUSTRIAL SITE	SOC,VOC	Toxic Release Inventory
T12	CHEMICAL PLANT	SOC,VOC,IOC	Toxic Release Inventory
T13	WOOD TREATMENT	IOC, VOC	Toxic Release Inventory
T14	AIR TANKER BASE	SOC,VOC	Toxic Release Inventory
T15	CONTAINER COMPANY	VOC	Toxic Release Inventory
T16	PETROLEUM STORAGE	SOC,VOC	Toxic Release Inventory
T17	ALUMINUM COMPANY	IOC	Toxic Release Inventory
T18	WOOD TREATMENT	IOC,VOC	Toxic Release Inventory
T19	INDUSTRIAL SITE	SOC,VOC	Toxic Release Inventory
D1	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D2	INDUSTRIAL SITE	SOC, VOC	NPDES Database
D3	INDUSTRIAL SITE	SOC,VOC	NPDES Database
D4	INDUSTRIAL SITE	SOC,VOC	NPDES Database
D5	ANIMAL FEEDLOT	MICROBIAL	NPDES Database
D6	INDUSTRIAL SITE	SOC,VOC	NPDES Database
D7	STORM WATER DISCHARGE	IOC	NPDES Database
D8	STORM WATER DISCHARGE	IOC	NPDES Database
D9	STORM WATER DISCHARGE	IOC	NPDES Database
D10	STORM WATER DISCHARGE	IOC	NPDES Database
D11	STORM WATER DISCHARGE	SOC,VOC,IOC	NPDES Database
D12	STORM WATER DISCHARGE	SOC,VOC,IOC	NPDES Database
D13	STORM WATER DISCHARGE	SOC,VOC,IOC	NPDES Database
D14	STORM WATER DISCHARGE	SOC,VOC,IOC	NPDES Database
D15	WOOD TREATMENT	IOC,VOC	NPDES Database
D16	WOOD TREATMENT	IOC,VOC	NPDES Database
D17	RAILROAD	SOC,VOC	NPDES Database
D18	ALUMINUM COMPANY	IOC	NPDES Database
D19	MEAT PACKING	MICROBIAL	NPDES Database
D20	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D21	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D22	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D23	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D24	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D25	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D26	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D27	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D28	ANIMAL FEEDLOT	MICROBIAL	NPDES Database
D29	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D30	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D31	LUMBER COMPANY	IOC,VOC	NPDES Database
D32	TRUCKING COMPANY	SOC,VOC	NPDES Database
D33	MUNICIPAL STORM WATER	SOC, VOC, IOC	NPDES Database

Table 1. Laclede Water District Potential Contaminant Inventory

Basin Map	Description	Potential	Source of Information
D34	WRECKING YARD	SOC, VOC	NPDES Database
D35	AIRPORT	SOC, VOC	NPDES Database
D36	AIRPORT	SOC, VOC	NPDES Database
D37	WRECKING YARD	SOC, VOC	NPDES Database
D38	INDUSTRIAL SITE	SOC, VOC	NPDES Database
D39	MINE	IOC	NPDES Database
D40	INDUSTRIAL SITE	SOC, VOC	NPDES Database
D41	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D42	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D43	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D44	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D45	TOWING COMPANY	SOC, VOC, IOC	NPDES Database
D46	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D47	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D48	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D49	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D50	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D51	LUMBER COMPANY	SOC, VOC	NPDES Database
D52	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D53	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D54	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D55	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D56	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D57	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D58	MINING	SOC, VOC, IOC	NPDES Database
D59	MINING	SOC, VOC, IOC	NPDES Database
D60	MINING	SOC, VOC, IOC	NPDES Database
D61	STORM WATER DISCHARGE	SOC,VOC,IOC	NPDES Database
D62	MINING	SOC, VOC, IOC	NPDES Database
D63	LANDFILL	SOC, VOC, IOC,	NPDES Database
D64	LANDFILL	SOC, VOC, IOC,	NPDES Database
D65	HIDE & FUR COMPANY	SOC, VOC, IOC,	NPDES Database
D66	RAILROAD	SOC, VOC, IOC	NPDES Database
D67	FREIGHT SERVICE	SOC, VOC, IOC	NPDES Database
D68	US Postal Service	SOC, VOC, IOC	NPDES Database
D69	INDUSTRIAL LABORATORY	SOC, VOC, IOC	NPDES Database
D70	INDUSTRIAL LABORATORY	SOC, VOC, IOC	NPDES Database
D71	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D72	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D73	GAS STATION	SOC, VOC	NPDES Database
D74	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D75	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D76	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D77	HOUSING MANUFACTURER	SOC, VOC, IOC	NPDES Database
D78	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D79	WRECKING YARD	SOC, VOC, IOC	NPDES Database
D80	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D81	MUNICIPAL SHOP	SOC, VOC, IOC	NPDES Database
D82	INDUSTRIAL	SOC, VOC, IOC	NPDES Database
D83	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D84	ANIMAL FEEDLOT	MICROBIAL	NPDES Database
D85	MINING PROJECT	SOC, VOC, IOC	NPDES Database

Table 1. Laclede Water District Potential Contaminant Inventory

Basin Map	Description	Potential	Source of Information
D86	PLACER	SOC, VOC, IOC	NPDES Database
D87	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D88	AIRPORT	SOC, VOC, IOC	NPDES Database
D89	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D90	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D91	INDISTRIAL SITE	STORM WATER	NPDES Database
D92	TIMBER CO	STORM WATER	NPDES Database
D93	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D94	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D95	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D96	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D97	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D98	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D99	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D100	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D101	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D102	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D103	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D104	INDUSTRIAL SITE	SOC, VOC, IOC	NPDES Database
D105	MINING	SOC, VOC, IOC	NPDES Database
D106	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D107	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D108	STORM WATER DISCHARGE	SOC, VOC, IOC	NPDES Database
D109	WASTE WATER TREATMENT	MICROBIAL	NPDES Database
D110	HATCHERY	MICROBIAL	NPDES Database
D111	HATCHERY	MICROBIAL	NPDES Database
C1	WOOD TREATMENT	IOC,VOC	CERCLA Database
C2	MINING AND SMELTING SITE	IOC	CERCLA Database
C3	RESERVOIR SEDIMENT	IOC	CERCLA Database
C4	WOOD TREATMENT	IOC,VOC	CERCLA Database
C5	RESEARCH LABORATORY	SOC, VOC, IOC	CERCLA Database
C6	U S DEPARTMENT OF INTERIOR SITE	SOC, VOC, IOC	CERCLA Database
C7	INDUSTRIAL	SOC, VOC, IOC	CERCLA Database
C8	INDUSTRIAL SITE	SOC, VOC, IOC	CERCLA Database
C9	WOOD TREATMENT	IOC,VOC	CERCLA Database

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Section 3. Susceptibility Analyses

Susceptibility of an intake to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity and construction of the intake, land use characteristic, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each intake is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking.

Intake Construction

The construction of the Laclede Water District public water system intake directly affects the raw water quality entering the filter plant. The intake is about 50 feet from the north bank of the Pend Oreille River in about 35 feet of water. In a Susceptibility Analysis conducted September 27, 2000 by DEQ staff, the intake construction score was 3, highly susceptible to contamination. Specifically, the intake is located opposite the mouth of Hoodoo Creek, and it does not have an infiltration gallery.

Potential Contaminant Source and Land Use

The intake rated in the moderate category for susceptibility to VOC and SOC contamination. The intake also scored in the moderate category for susceptibility to contamination from inorganic chemicals, and microbial contaminants, which are generally related to storm water runoff and agricultural grazing impacts. Table 2 summarizes the Susceptibility Analysis ranking for the Laclede Water District intake.

Table 2. Summary of Laclede Water District Susceptibility Evaluation

Intake	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
	IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Pend Oreille River	M	M	M	M	H	M	M	M	M

H = High Susceptibility, M = Moderate Susceptibility, Low Susceptibility

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

H* - Indicates source automatically scored as high susceptibility due to presence a contaminant above the Maximum Contaminant Level in the finished drinking water, or because of the presence of a significant potential source of contamination in the buffer zone and within 1000 feet of the intake..

Susceptibility Summary

The Laclede Water District drinking water supply is most immediately vulnerable to potential contaminants near the intake. Contaminants from communities and land uses elsewhere in the watershed are a moderate threat to water quality at Laclede, particularly during periods of high runoff.

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to a particular locality. A community with a fully developed source water protection program will incorporate many strategies. For the Laclede Water District, source water protection activities should focus on regulating use of potential contaminants in the area near the intake. Because most of the delineated area is outside the direct jurisdiction of the Laclede Water District, partnerships with county, state and federal agencies, private landowners and industry groups should be established and are critical to success. Due to the relatively short time involved with the movement of surface water, source water protection activities should be aimed at short-term management strategies with an emphasis on dealing with long-term future impacts from these same sources.

Assistance

Public water supplies and others may call the following IDEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the IDEQ office for preliminary review and comments.

Coeur d'Alene Regional IDEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

Website: <http://www.deq.state.id.us>

References Cited

Idaho Department of Agriculture, 1998. Unpublished Data.

Idaho Division of Environmental Quality, 1994. Ground Water and Soils Reconnaissance of the Lower Payette Area, Payette County, Idaho. Ground Water Quality Technical Report No. 5. Idaho Division of Environmental Quality. December 1994.

EPA (U.S. Environmental Protection Agency), 1997, State Methods for Delineating Source Water Protection Areas for Surface Water Supplied Sources of Drinking Water, EPA 816-R-97-008, 40p.

U.S. Government Printing Office, 1995, Code of Federal Regulations, 40 CFR 112, Appendix C-III, Calculation of the Planning Distance

Idaho Department of Environmental Quality, 1999, *Protecting Drinking Water Sources in Idaho*.

Attachment A

Laclede Water District Susceptibility Analysis Worksheet

The final scores for the susceptibility analysis were determined from the addition of the Potential Contaminant Source/Land Use Score and Source Construction Score.

Final Susceptibility Scoring:

0 - 7 Low Susceptibility

8 - 15 Moderate Susceptibility

> 16 High Susceptibility

Surface Water Susceptibility Report

Public Water System Name : **LACLEDE WATER DIST** Source: **PEND OREILLE R**

Public Water System Number : **1090073**

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1. System Construction

Score

Intake structure properly constructed	NO	1
Infiltration gallery or well under the direct influence of surface water	NO	2
<i>Total System Construction Score</i>		3

2. Potential Contaminant Source / Land Use

IOC **VOC** **SOC** **Microbial**
Score **Score** **Score** **Score**

Predominant land use type (land use or cover)	BASALT FLOW, UNDEVELOPED, OTHER	0	0	0	0
Farm chemical use high	NO	0	0	0	
Significant contaminant sources *	NO				
Sources of class II or III contaminants or microbials Score = # Sources X 2) 8 Points Maximum	present within the small stream segment of the	8	8	8	8
Agricultural lands within 500 feet	NO	0	0	0	0
Three or more contaminant sources	YES	1	1	1	1
Sources of turbidity in the watershed	YES	1	1	1	1
<i>Total Potential Contaminant Source / Land Use Score</i>		10	10	10	10

3. Final Susceptibility Source Score

13 **13** **13** **13**

4. Final Source Ranking

Moderate Moderate Moderate
e Moderate

* Special consideration due to significant contaminant: The source water has no special susceptibility

.

POTENTIAL CONTAMINANT INVENTORY

LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as **Superfund**, is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100-year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.